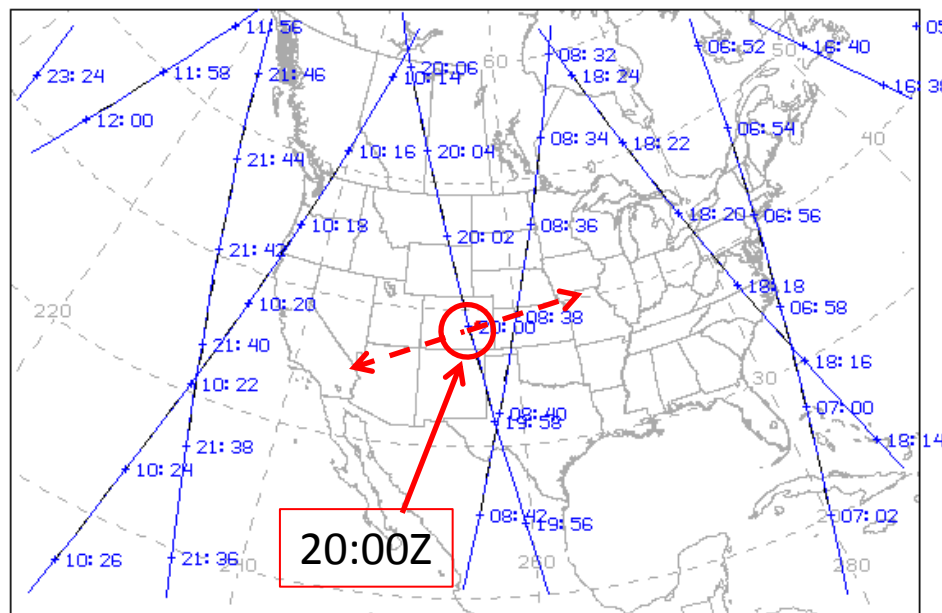


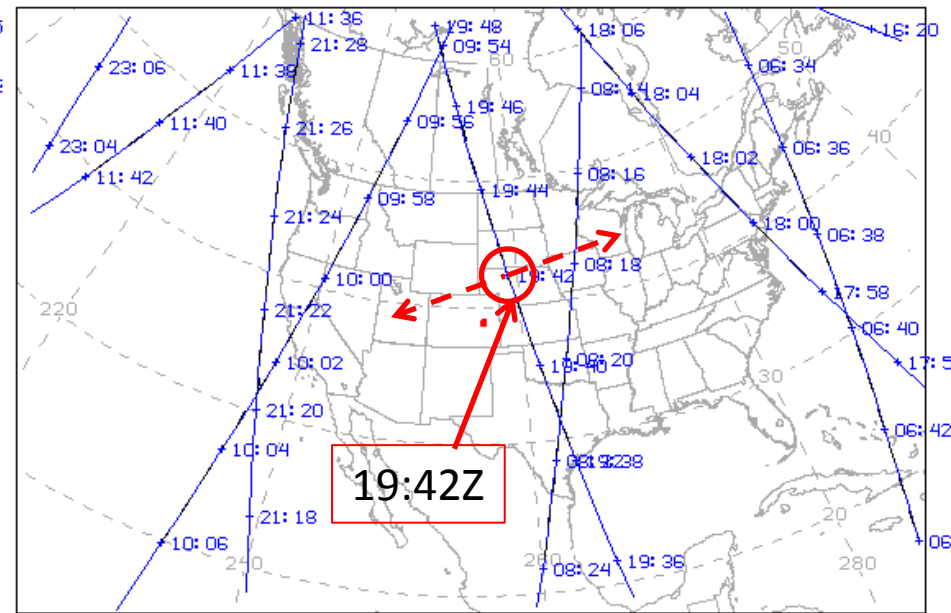
# RAQMS 20150426 SONGNEX

## 54hr and 78hr FX for 18Z April 27 and d28 (Utah, Wyoming, Colorado), 2015

S-NPP (CrIS) overpass on 2015/04/27 and 2015/04/28  
NUCAPS CO<sub>2</sub>, O<sub>3</sub>, CO, CH<sub>4</sub> Validation Opportunity  
**Nadir (27) and Western (28) swath**



NPP 2015/04/27 UTC NPP ORBITAL PREDICT PLOT EPOCH DATE: Apr-25-2015  
lat: 39.749 lon: 255.011 res: 24 km

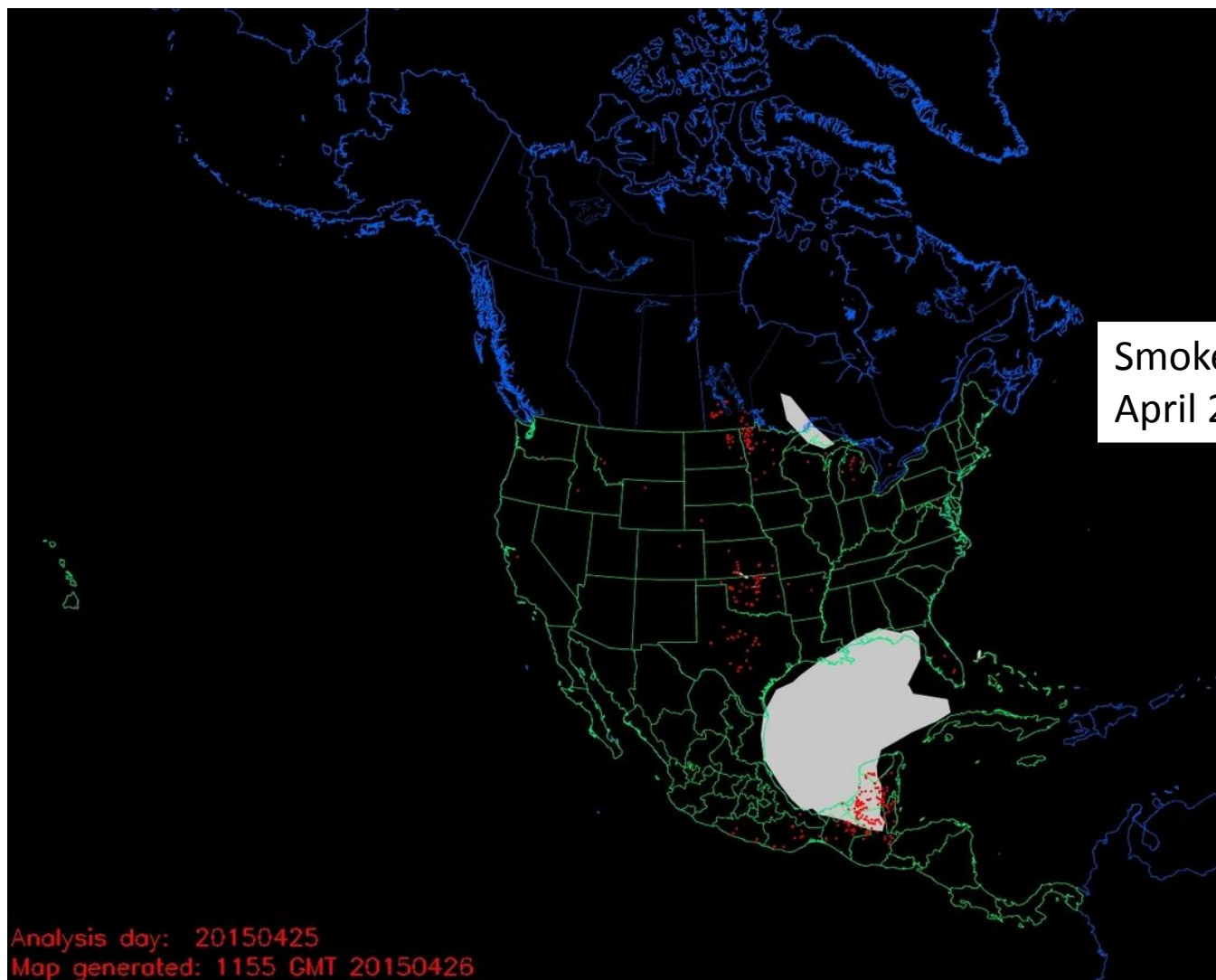


NPP 2015/04/28 UTC NPP ORBITAL PREDICT PLOT EPOCH DATE: Apr-25-2015  
lat: 39.749 lon: 255.011 res: 24 km

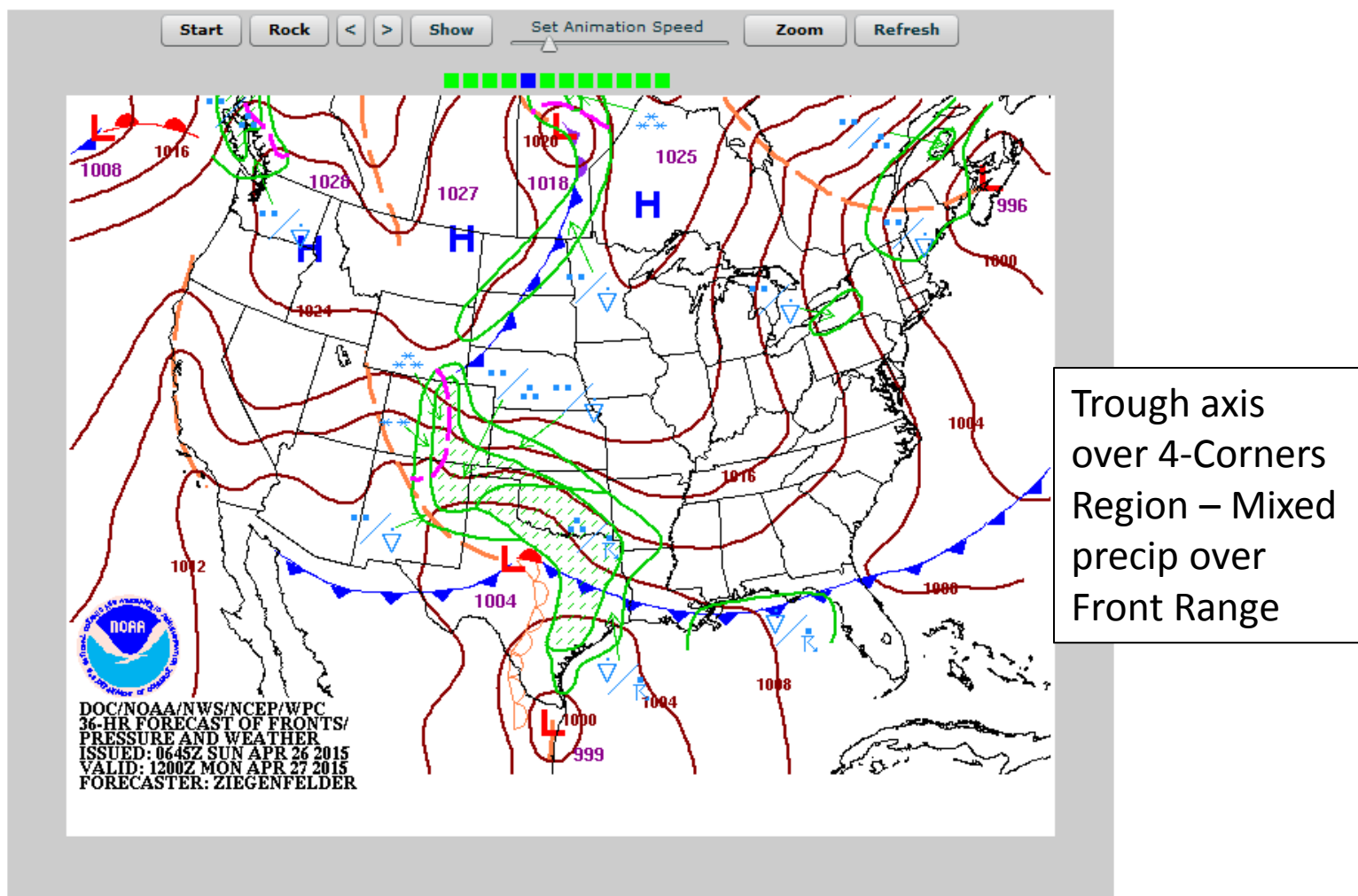
**Approximate swath width**

# NESDIS Hazard Mapping System (HMS)

<http://www.ospo.noaa.gov/data/land/fire/currenthms.jpg>



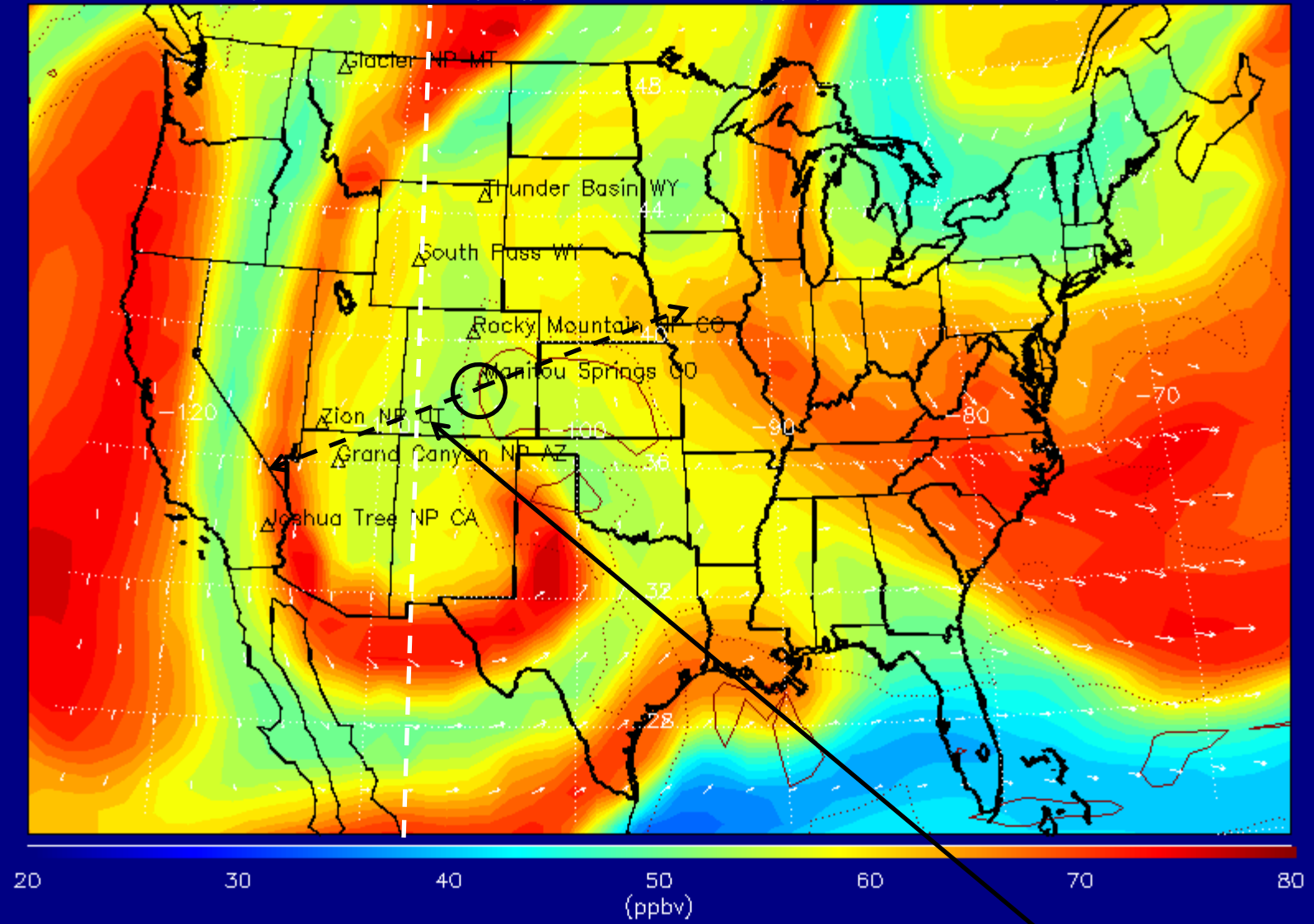
## 36hr NCEP/WPC forecast valid 12Z 04/27/2015



<http://www.hpc.ncep.noaa.gov/basicwx/day0-7loop.html>

05km O<sub>3</sub> 18Z 20150427

(MSL Pressure Contoured (white)/95-75% Convective Precip (Red) 95% CPCP=0.167847 mm/hr



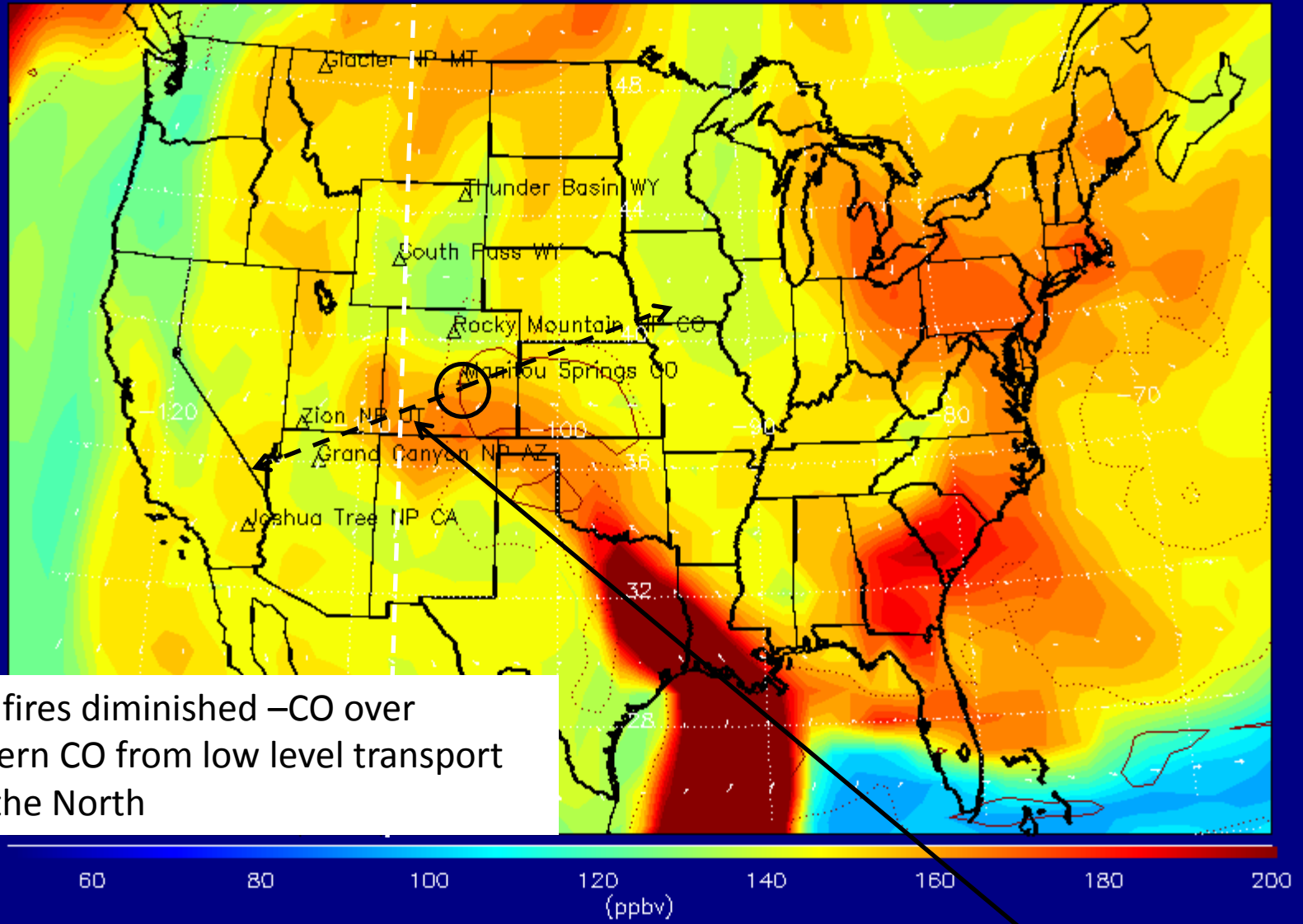
RAQMS<sub>6</sub> 54hr Fx Initialized 12Z 20150425

Western Colorado on Western side of swath

Approximate swath width

01km AGL CO 18Z 20150427

(MSL Pressure Contoured (white)/95-75% Convective Precip (Red) 95% CPDP=0.167847 mm/hr



Idaho fires diminished –CO over  
Southern CO from low level transport  
from the North

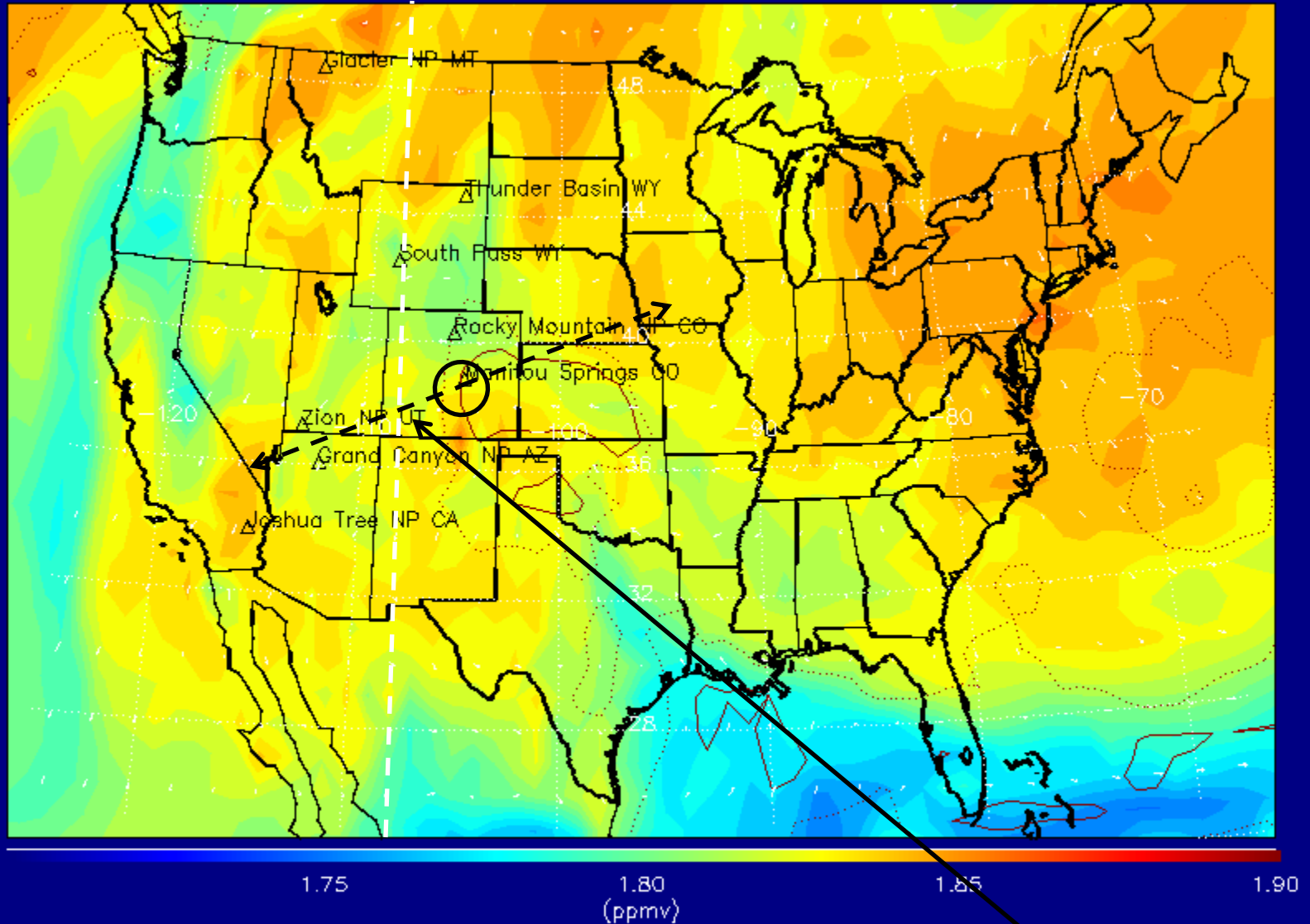
RAQMS<sub>6</sub> 54hr Fx Initialized 12Z 20150425

Western Colorado on Western side of swath

Approximate swath width

01km AGL CH4 18Z 20150427

(MSL Pressure Contoured (white)/95-75% Convective Precip (Red) 95% CFCP=0.167847 mm/hr

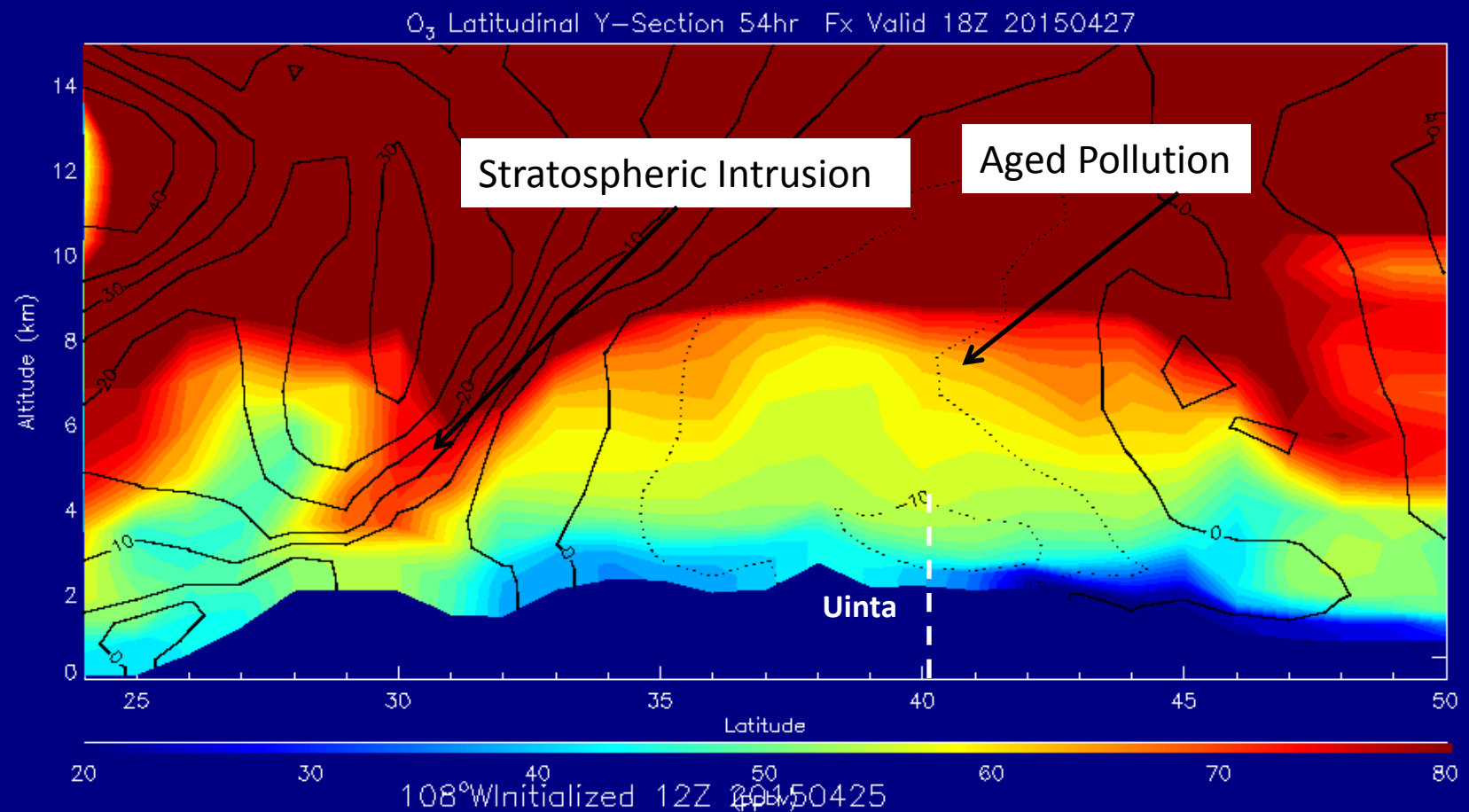


RAQMS<sub>0</sub> 54hr Fx Initialized 12Z 20150425

Western Colorado on Western side of swath

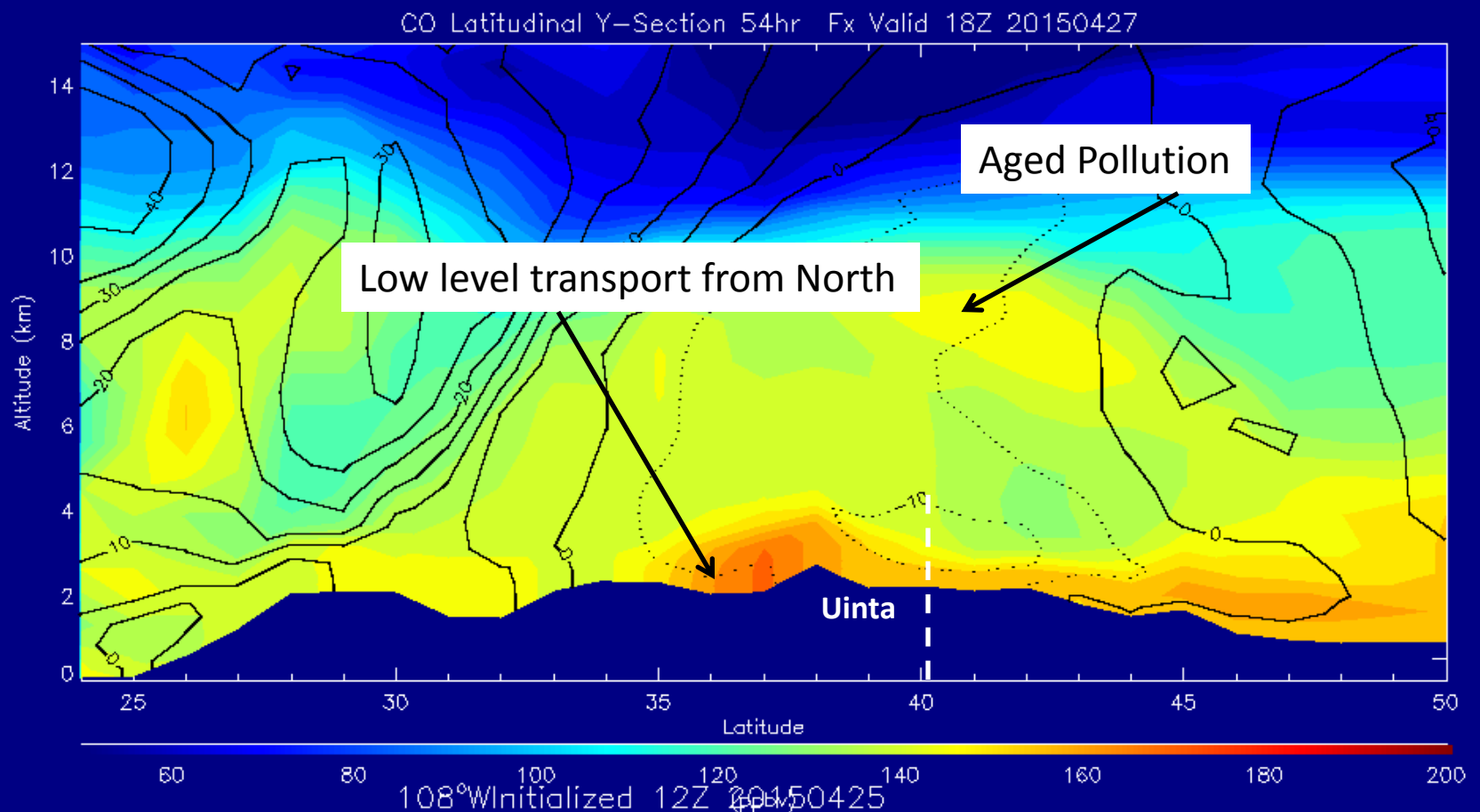
RAQMS surface CH4 constrained with 1990 mixing ratio – introduces ~0.1ppmv low bias

# RAQMS 54hr FX O<sub>3</sub> Cross-section at 108W (Western Colorado)



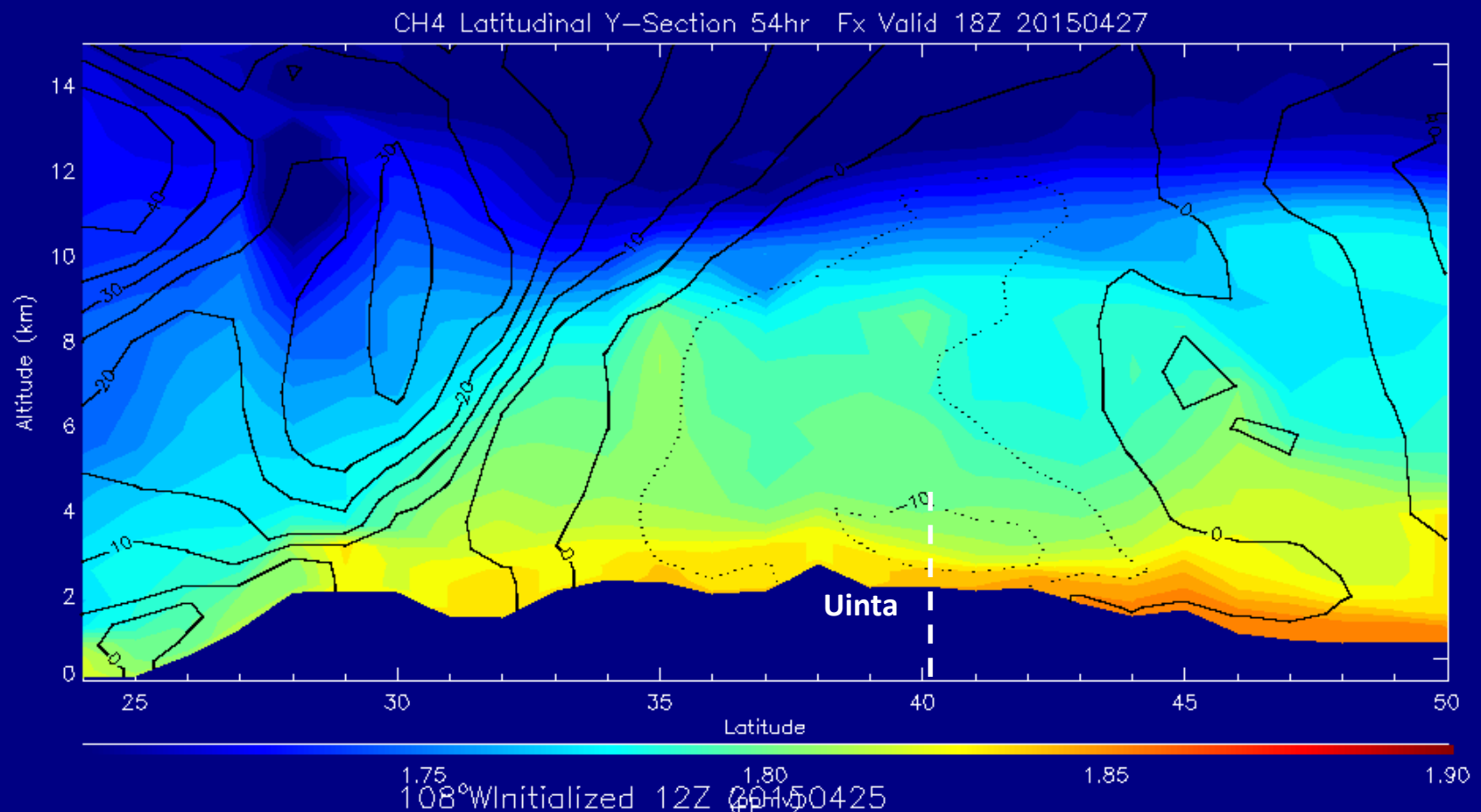


## RAQMS 54hr FX CO Cross-section at 108W (Western Colorado)



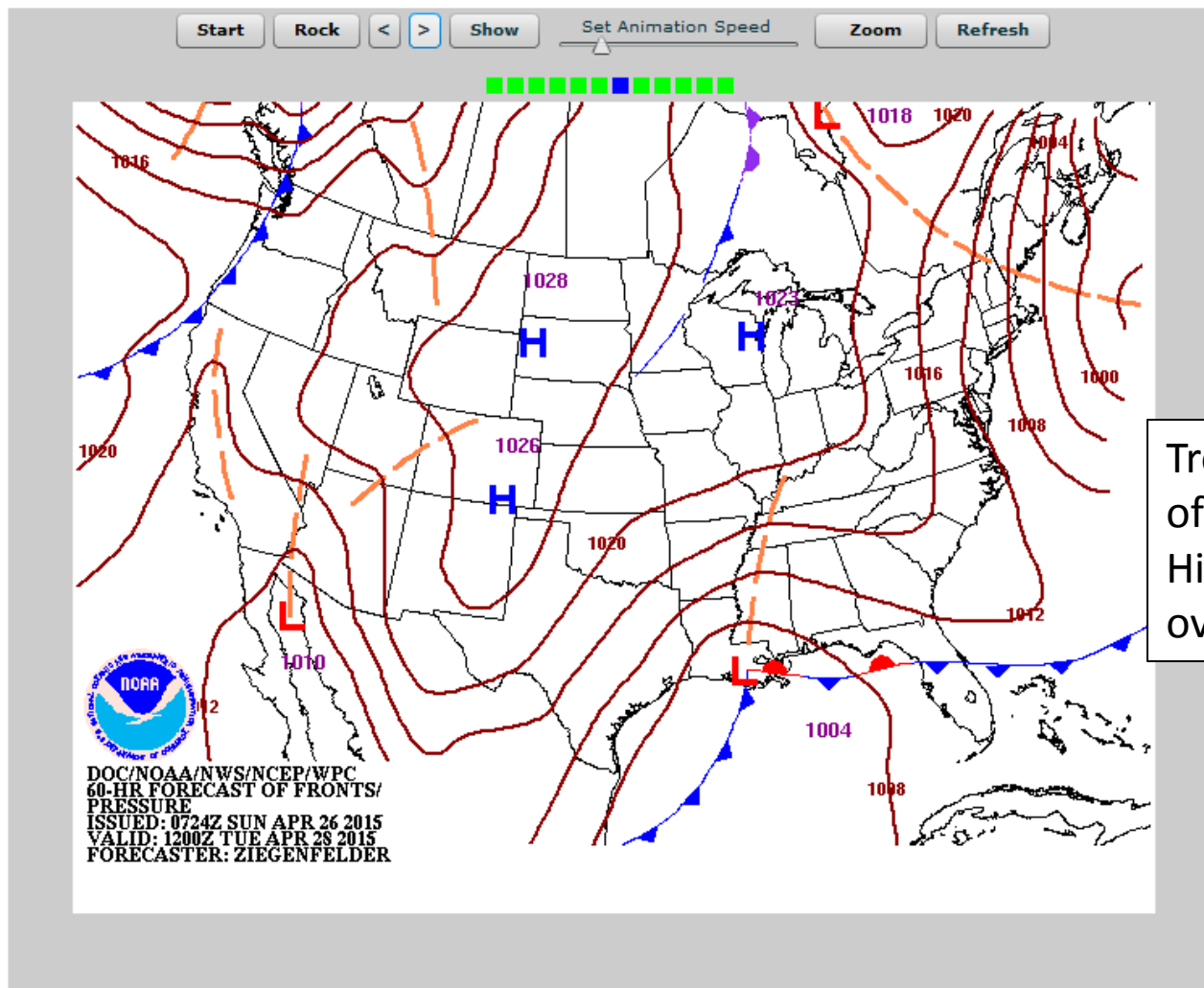


# RAQMS 54hr FX CH<sub>4</sub> Cross-section at 108W (Western Colorado)



RAQMS surface CH<sub>4</sub> constrained with 1990 mixing ratio – introduces ~0.1ppmv low bias

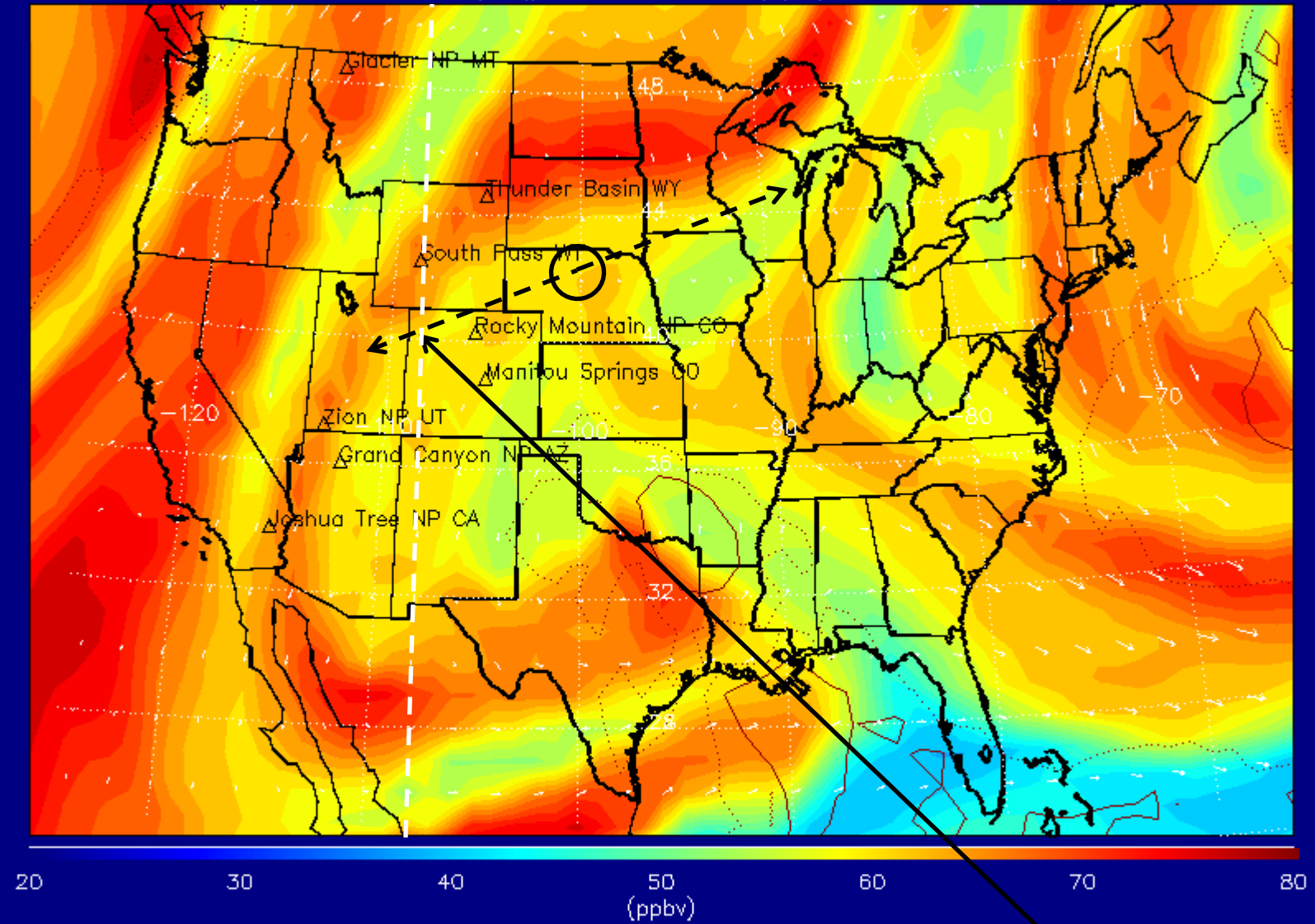
## 60hr NCEP/WPC forecast valid 12Z 04/28/2015



<http://www.hpc.ncep.noaa.gov/basicwx/day0-7loop.html>

05km O<sub>3</sub> 18Z 20150428

(MSL Pressure Contoured (white))/95-75% Convective Precip (Red) 95% CPCP=0.145874 mm/hr



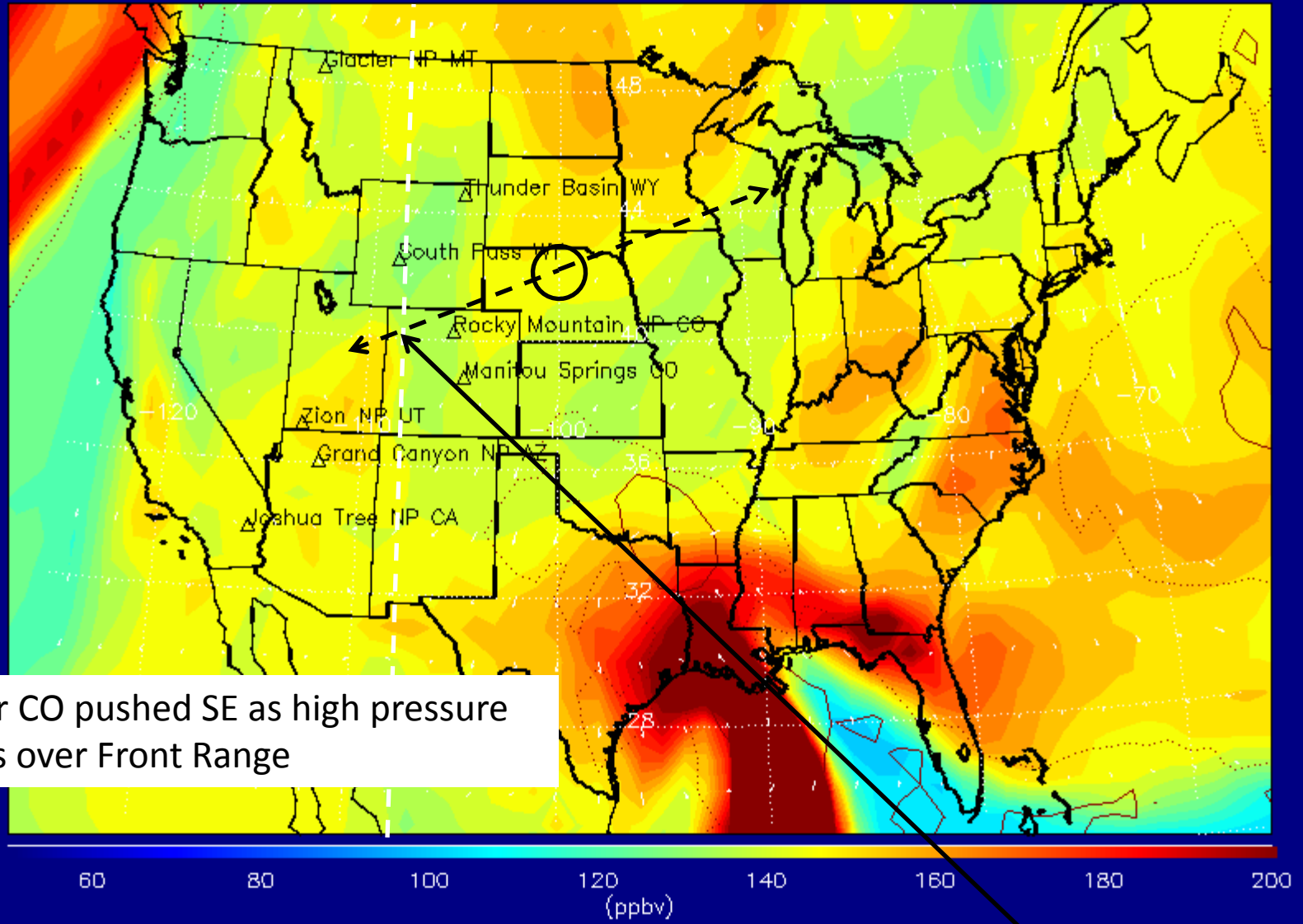
RAQMS<sub>6</sub> 78hr Fx Initialized 12Z 20150425

Western Colorado on Western side of swath

Approximate swath width

01km AGL CO 18Z 20150428

(MSL Pressure Contoured (white)/95-75% Convective Precip (Red) 95% CPDP=0.145874 mm/hr



Higher CO pushed SE as high pressure moves over Front Range

RAQMS<sub>6</sub> 78hr Fx Initialized 12Z 20150425

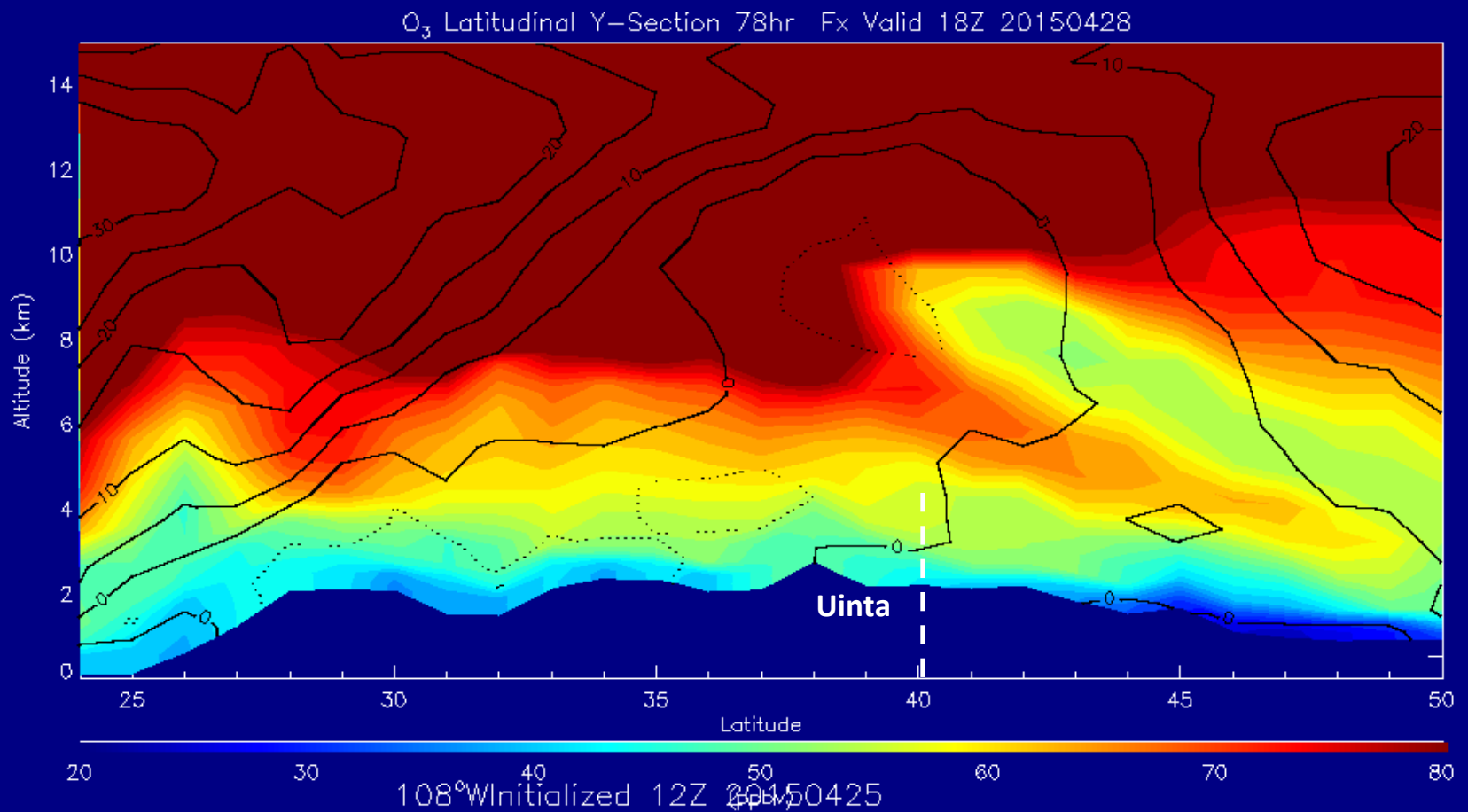
Western Colorado on Western side of swath

Approximate swath width

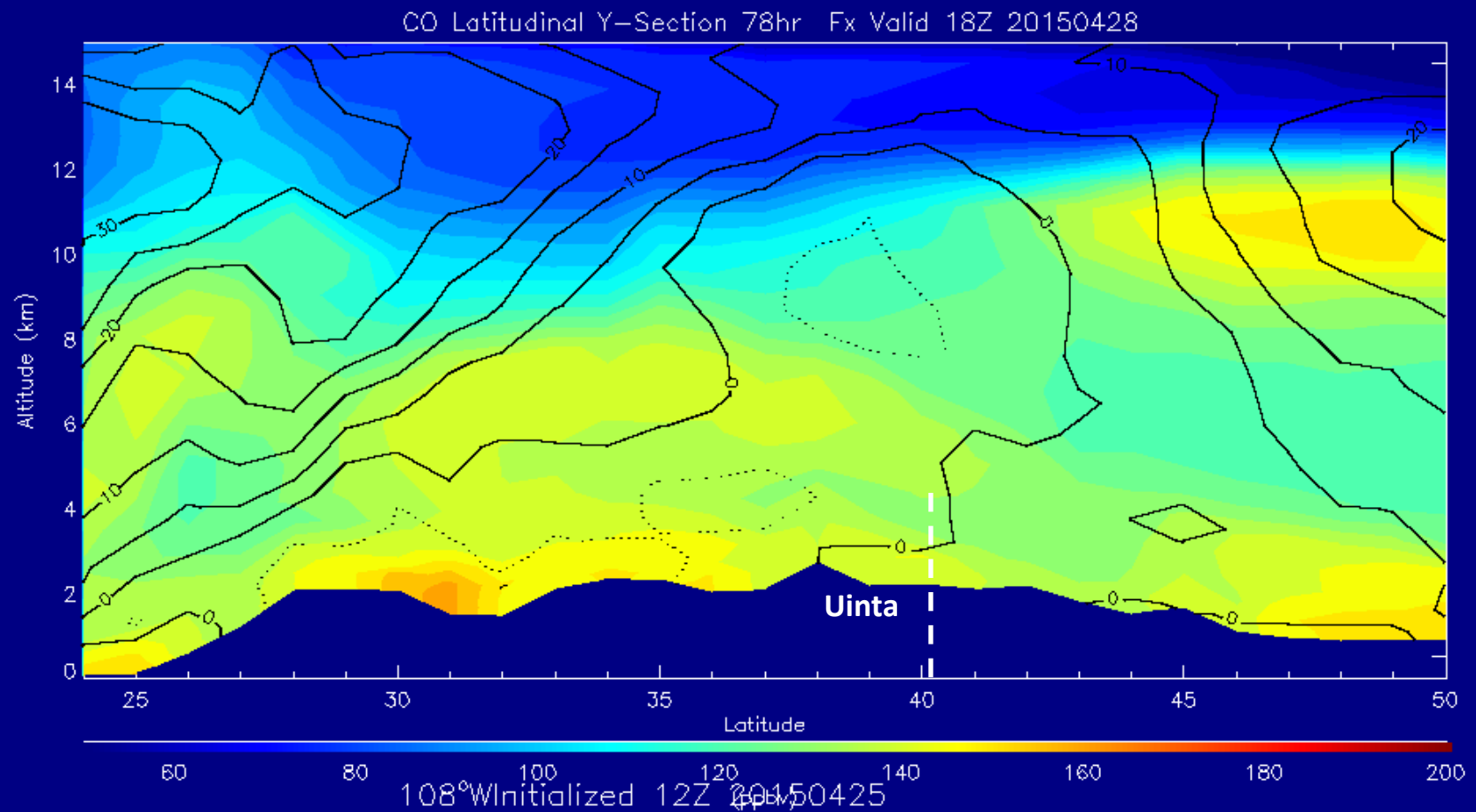
## Western Colorado on Western side of swath

RAQMS surface CH<sub>4</sub> constrained with 1990 mixing ratio – introduces ~0.1ppmv low bias

RAQMS 78hr FX O<sub>3</sub> Cross-section at 108W  
(Western Colorado)

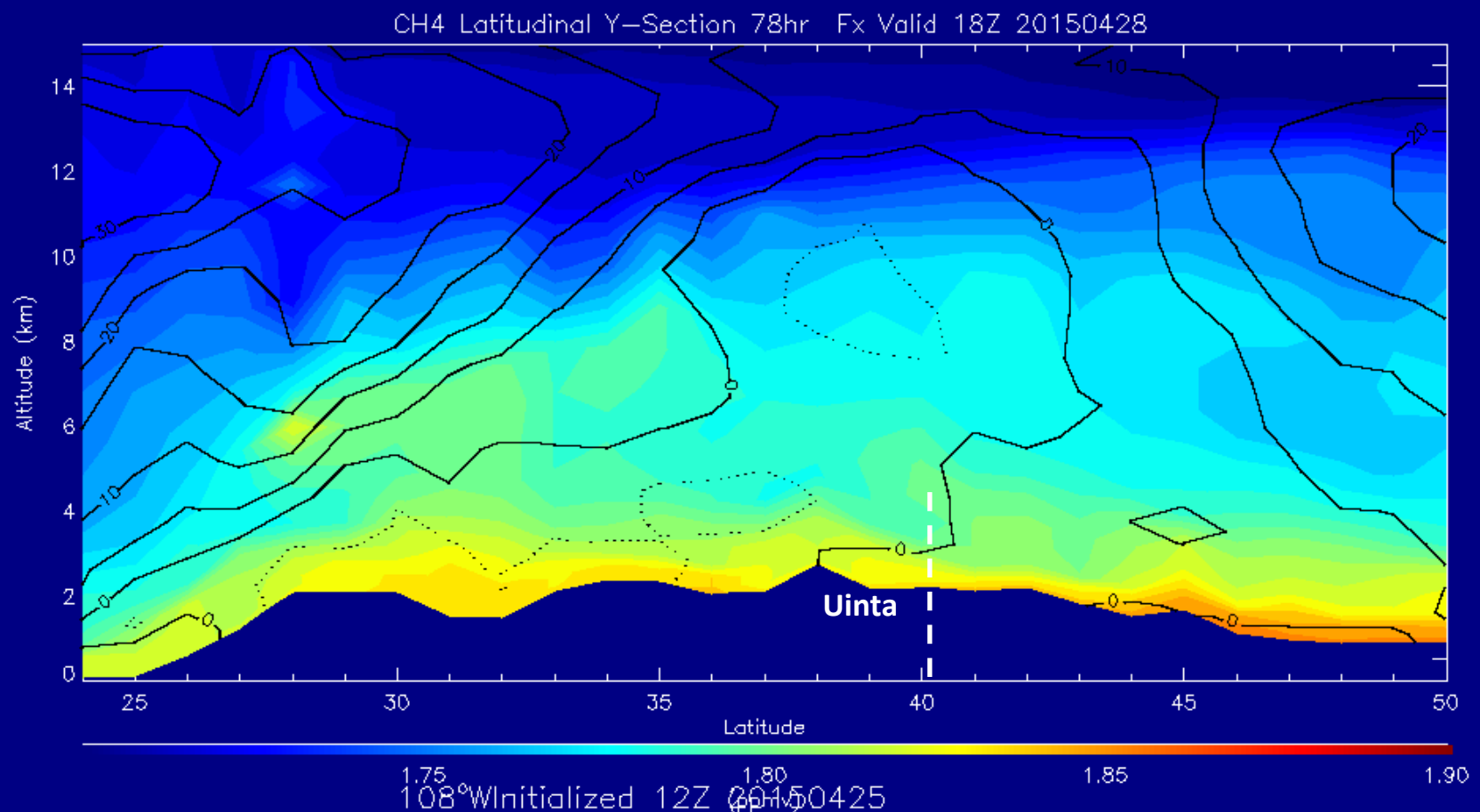


RAQMS 78hr FX CO Cross-section at 108W  
(Western Colorado)





## RAQMS 78hr FX CH<sub>4</sub> Cross-section at 108W (Western Colorado)



RAQMS surface CH<sub>4</sub> constrained with 1990 mixing ratio – introduces ~0.1ppmv low bias